

## Set 1, 1b

Evaluate the brightness temperature of a source.

Relevant formulae:

$$d \leq c\tau$$

$$T_b[\text{K}] = 4.5 \cdot 10^{10} S[\text{Jy}] \left( \frac{\lambda[\text{cm}] D_l[\text{Mpc}]}{\tau[\text{d}] (1+z)^2} \right)^2$$

## Set 2

NOAA (National Oceanic and Atmospheric Administration)  
Daily solar radio flux (10.7cm)

## Set 3

NOAA  
Daily sunspot number

## Set 4

NOAA  
Proton Fluence (Protons/(cm<sup>2</sup> day sr)) > 1Mev